

Contribution to the aphid fauna of Nizhny Novgorod Province, Chuvashia and Mari El (Homoptera: Aphidoidea)

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Fifty eight aphid species are reported from the territories of Nizhny Novgorod Province, Chuvashia, and Mari El situated north of the Volga River, including 9 species and 1 subspecies new to the fauna of Russia. The first description of oviparous female of *Aphis rumicivora* Heie, 1986 and a redescription of apterous and alatae females of *Aphis coffeata* Mamontova, 1979 are given.

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The paper deals with the aphid fauna of the territories of Nizhny Novgorod Province, Chuvashia, and Mari El situated north of the Volga River. This area belongs to the Lowland taiga transvolgiensis region located between Severnye Uvaly hilly plain and the Volga River to the west of Vyatskie Uvaly hilly plain. It is a base plain with absolute marks in the north no more than 180 m, and in the south no more than 50-80 m higher than water level in Volga. The climate is temperate continental. In the south of the region, the average temperature of July is 18-19 °C. Annual sum of precipitations is 500-550 mm. Forests belong to the types of south boreal coniferous (taiga) or mixed ones. Together with true mosses spruce and pine forests, complex shrub spruce and pine forests are very characteristic. Underwood is formed by oak, linden, maple, warty wahoo and European hazel (Myl'kov & Gvozdetskiy, 1986).

Previous information on the aphid fauna of the region under study and adjacent territories is almost absent. Tsurikov (2002) registered *Sacchiphantes abietis* in the State Nature Reserve "Bol'shaya Kokshaga", Mari El, and Anufriev & Bayanov (2003) cited *Sacchiphantes viridis*, *Colopha compressa* and *Pemphigus populinigræ* in the review of the entomofauna of the Nature Reserve "Kerzhenskiy", Nizhny Novgorod Prov.

This article is based on the material collected in 2002-2004 by N.V. Smirnova and O.G. Nikanorova. Further 54 aphid species have been registered, including 9 species and 1 subspecies new to the fauna of Russia (marked in the list by *).

All measurements (always in µm), number of hairs, rhinaria, etc., and indexes are presented by extreme variants and in brackets by arithmetical mean, for example 223-362 (273-309). Microscope slides are stored in the collection of the Zoological Institute of RAS (St. Petersburg). In the redescription of *Aphis coffeata*, apterous virginopara female is examined in more detail and for alate virginopara female differences from apterous one are specified only.

Abbreviations: al. – alate viviparous female, apt. – apterous viviparous female, em. – emigrant, fun. – fundatrix, gyn. – gynoparae, RWS – railway station, SNR – state nature reserve.

Superfamily PHYLLOXEROIDEA

Family ADELGIDAE

Sacchiphantes abietis (Linnaeus, 1758). Tsurikov (2002) recorded this species as *Adelges abietis* L. from SNR "Bol'shaya Kokshaga".

Sacchiphantes viridis (Ratzeburg, 1843). Anufriev & Bayanov (2003) registered this species on *Picea* sp. in SNR "Kerzhenskiy".

Superfamily APHIDOIDEA

Family PEMPHIGIDAE

Colopha compressa (Koch, 1856). Anufriev & Bayanov (2003) registered this species on *Ulmus laevis* Pallas in SNR "Kerzhenskiy".

Pemphigus populinigrae (Schrank, 1801). Anufriev & Bayanov (2003) recorded this species as *Pemphigus filaginis* Boyer de Foscolombe from *Populus nigra* L. for SNR "Kerzhenskiy".

Tetraneura ulmi (Linnaeus, 1758). *Nizhny Novgorod Prov.*: apt. and gyn., Bor Distr., SNR "Kerzhenskiy", 26.VIII.2004, Poaceae, on roots (N.V. Smirnova).

Family THELAXIDAE

Glyphina betulae (Linnaeus, 1758). *Nizhny Novgorod Prov.*: apt., Semenov Distr., Tarasikha RWS, 17.V.2002, *Betula* sp. (O.G. Nikanorova); apt. and al., Semenov Distr., Keza RWS, 21.VI.2003, *Betula* sp., on leaves (O.G. Nikanorova).

Family ANOECIIDAE

Anoecia corni (Fabricius, 1775). *Chuvash Republic*: gyn., Cheboksary Distr., near lake Astrakhanka, 21.IX.2002, sweeping (N.V. Smirnova); *Mari El Republic*: gyn., Zvenigovo Distr., vill. Urzhumka, 25.IX.2003, *Agrostis stolonifera* L. (N.V. Smirnova).

Family DREPANOSIPHIDAE

Calaphis flava Mordvilko, 1928. *Nizhny Novgorod Prov.*: al., Semenov Distr., Tarasikha RWS, 17.V.2002, *Betula* sp., on lower side of leaves (O.G. Nikanorova).

Callipterinella calliptera (Hartig, 1841). *Nizhny Novgorod Prov.*: apt., Semenov Distr., Tarasikha RWS, 17.V.2002, *Betula* sp. (O.G. Nikanorova).

Callipterinella tuberculata (von Heyden, 1837). *Nizhny Novgorod Prov.*: apt., Semenov Distr., Keza RWS, 10.VII.2002, *Betula* sp., on lower side of leaves (O.G. Nikanorova); apt. and al., same locality, 15.VIII.2003, *Betula* sp., on lower and upper side of leaves (O.G. Nikanorova).

Euceraphis betulae (Koch, 1855). *Nizhny Novgorod Prov.*: al., Semenov Distr., RWS Tarasikha, 17.V.2002, *Betula* sp., on young shoots and leaves (O.G. Nikanorova); al., Semenov Distr., Ozero RWS, 4.VII.2003, *Betula* sp., on

young shoots and leaves (O.G. Nikanorova); *Chuvash Republic*: al., Cheboksary Distr., vill. Oktyabr'skiy, 21.IX.2002, *Phragmites australis* (Cav.) Trin. ex Steudel (accidentally) (N.V. Smirnova); *Mari El Republic*: al., Medvedevo Distr., SNR "Bol'shaya Kokshaga", near lake Kosheer, 26.VIII.2003, sweeping (N.V. Smirnova).

Monaphis antennata (Kaltenbach, 1843). *Nizhny Novgorod Prov.*: al., Bor Distr., SNR "Kerzhenskiy", 27.VIII.2004, unknown plant (N.V. Smirnova).

Sminthuraphis ulrichi Quednau, 1953. *Nizhny Novgorod Prov.*: apt., Bor Distr., SNR "Kerzhenskiy", 25.VIII.2004, ?*Carex* sp., on stem and leaves (N.V. Smirnova).

Symydobius oblongus (von Heyden, 1837). *Nizhny Novgorod Prov.*: apt. and al., Semenov Distr., Keza RWS, 21.VI.2003, *Betula* sp. (O.G. Nikanorova); *Chuvash Republic*: ♀, Cheboksary Distr., near lake Astrakhanka, 21.IX.2002, *Geranium* sp. (?accidentally) (N.V. Smirnova).

Family CHAITOPHORIDAE

Chaitophorus populeti populeti (Panzer, 1801). *Nizhny Novgorod Prov.*: apt. and al., Semenov Distr., Linda RWS, 27.VII.2003, *Populus tremula* L., on lower side of leaves (O.G. Nikanorova); apt. and al., Semenov Distr., Keza RWS, 15.VIII.2003, *Populus tremula* L. (O.G. Nikanorova).

Chaitophorus salicti (Schrank, 1801). *Nizhny Novgorod Prov.*: apt. and al., Semenov Distr., Ozero RWS, 4.VII.2003, *Salix* sp., on leaves (O.G. Nikanorova).

Chaitophorus salijaponicus niger Mordvilko, 1929. *Nizhny Novgorod Prov.*: apt., Semenov Distr., Keza RWS, 15.VIII.2003, *Salix* sp., on lower side of leaves (O.G. Nikanorova).

Chaitophorus truncatus (Hausmann, 1802). *Nizhny Novgorod Prov.*: apt., Semenov Distr., Keza RWS, 10.VII.2002 and 15.VIII.2003, *Salix* sp., on lower side of leaves (O.G. Nikanorova).

Family APHIDIDAE

Subfamily PTEROCOMMATINAE

Pterocomma jacksoni Theobald, 1921. *Nizhny Novgorod Prov.*: al., Semenov Distr., Ozero RWS, 4.VII.2003, *Salix* sp., on branches (O.G. Nikanorova).

***Pterocomma pilosum konoii** Hori ex Takahashi, 1939. *Nizhny Novgorod Prov.*: apt., Semenov Distr., Ozero RWS, 4.VII.2003, *Salix* sp., on stem (O.G. Nikanorova).

Subfamily APHIDINAE

Tribe Aphidini

Subtribe Rhopalosiphina

Hyalopterus pruni (Geoffroy, 1762). *Mari El Republic*: apt. and al., Zvenigovo Distr., vill. Urzhumka, 28.VI.2002, *Phragmites australis* (Cav.) Trin. ex Steudel, on lower side of leaves (N.V. Smirnova); apt., Medvedevo Distr., SNR "Bol'shaya Kokshaga", near lake Kosheer, 23.VII.2003, *Molina caerulea* (L.) Moench. (on upper side of leaves) and *Phragmites australis* (Cav.) Trin. ex Steudel (N.V. Smirnova); *Chuvash Republic*: apt., Cheboksary Distr., vill. Oktyabr'skiy, 21.IX.2002, *Phragmites australis* (Cav.) Trin. ex Steudel (N.V. Smirnova).

Rhopalosiphum padi (Linnaeus, 1758). *Nizhny Novgorod Prov.*: em., Semenov Distr., Tarasikha RWS, 17.V.2002 and 2.VI.2002, *Prunus padus* L., on lower side of leaves (O.G. Nikanorova); em., Bor Distr., SNR "Kerzhenskiy", 3.VI.2004, *Poa pratensis* L., on panicle (N.V. Smirnova).

Schizaphis jaroslavi (Mordvilko, 1921). *Nizhny Novgorod Prov.*: apt. and al., Bor Distr., SNR "Kerzhenskiy", 19.VII.2004, *Calamagrostis epigeios* (L.) Roth (N.V. Smirnova).

Subtribe Aphidina

Aphis acetosae Linnaeus, 1761. *Nizhny Novgorod Prov.*: apt. and al., Bor Distr., SNR "Kerzhenskiy", 14.VII.2004, *Rumex thyrsiflorus* Fingerh. (N.V. Smirnova); *Chuvash Republic*: apt. and al., Cheboksary Distr., vill. Oktyabr'skiy, 8.VI.2003, *Rumex confertus* Willd., on inflorescence and on lower side of crumpled leaves (N.V. Smirnova).

***Aphis brunellae** Schouteden, 1903. *Nizhny Novgorod Prov.*: apt. and al., Bor Distr., SNR "Kerzhenskiy", 19.VII.2004, *Prunella* sp. (N.V. Smirnova).

***Aphis coffeata** Mamontova, 1979

Material (all collected by N.V. Smirnova). **Russia**, *Nizhny Novgorod Prov.*, Bor Distr.: 4 apterous viviparous females and 6 alate viviparous females, no. 9782, SNR "Kerzhenskiy", 15.VII.2004, *Melampyrum pratense* L.; 12 apterous viviparous females and 3 alate viviparous females, no. 9788, SNR "Kerzhenskiy", 19.VII.2004, *Melampyrum pratense* L.; *Mari El Republic*, Zvenigovo Distr.: 4 apterous viviparous females and 1 alate viviparous female, no. 9814, vill. Ivan-Belyak, 22.VI.2002, ?*Melampyrum pratense* L.; 1 apterous viviparous female and 1 alate viviparous female, no. 9818, 5 km from vill. Kokshamary on river Bol'shaya Kokshaga, 22.VI.2002, *Melampyrum pratense* L.; 6 apterous viviparous females and 1 alate viviparous female, no. 9820, vill. Ivan-Belyak, 22.VI.2002, *Melampyrum pratense* L.

The species was described by Mamontova (1979) from 3 apterous virginopara females and 2 alate virginopara female virgins. Extensive material collected by N.V. Smirnova allows us to make a detailed redescription of this species using original data and data from the original description (see also the Table).

Description. Apterous viviparous female. Elliptic, broad elliptic or egg-shaped, body 1.4-2.0 (1.5-1.8) times as long as wide. When alive, coffee-coloured, brown or dark brown, almost black, without strong waxy pulverulence, dull, cauda pale. Larvae red-brown or light brown. Cleared specimens with dark brown: 1st antennal segment, 3rd and 4th rostral segments, coxae and large sclerites at their base, hind femora (except for bases), apices of tibiae, tarsi, bands and sclerites on tergites of thorax and abdomen, marginal sclerites on abdominal segments I-VII, intersegmental plates and peritremes on all segments, siphunculi, cauda, anal and subgenital plates; with brown: 2nd antennal segment, apex of 5th antennal segment, 6th antennal segment, head and middle femora (except for bases). Dorsal surface of thorax with large marginal sclerites on all segments, sclerotized large bands on pro- and mesothorax and more or less large sclerites on metathorax (sometimes almost completely absent). Abdominal dorsum with sparse dorsal sclerites on tergites I-VI, bands on tergites VII and VIII, more or less large marginal sclerites on segments II-VI and small marginal sclerites on segments I and VII; sclerites on tergite VI and especially on tergites I-V sometimes absent; band on tergite VI sometimes divided into small separate sclerites. Surface of head coarsely wrinkled, that of occiput, dorsal side of thorax and abdominal tergites I-VI reticulate (contour of cells formed by strongly smoothed-out, flat spinules fused and forming thick irregular line), of tergite VII with rows of dentiform spinules; such spinules on tergite VIII partially fused and sometimes forming scales; surface of ventral side of thorax wrinkled, with some pointed spinules, of ventral side of abdomen with long rows of small dentiform spinules frequently forming strongly stretched cells. Hairs on dorsal and ventral surface of thorax and abdomen long, very finely pointed; longest dorsal, marginal and ventral hairs on abdominal tergite III 46-76 (46-61), 66-91 (71-78) and 56-89 (59-71) µm long, 2.00-4.00 (2.00-3.01), 2.55-4.50 (3.11-4.12) and 2.20-4.67 (2.95-3.21) times as long as articular diameter of 3rd antennal segment, respectively; marginal hairs 1, 1-4, 1-4, 2-4, 1-3, 2-4 and 0-1 on each side of abdominal segments I-VII; abdominal tergite III with 2 dorsal hairs; tergite VI with 2-3 (2.0-2.5) hairs between siphunculi; tergite VIII with 3-8 (3.3-6.0) hairs, 66-101 (76-83) µm long, 2.82-5.33 (3.33-4.13) times as long as articular

Table. Biometric data for *Aphis coffeata* and *A. rumicivora*.

Character	<i>Aphis coffeata</i>		<i>Aphis rumicivora</i>
	apterous viviparous females	alatae viviparous females	apterous oviparous female
Number of samples/ specimens	5/27	5/12	1/1
Length of body, μm	1381-2066 (1520-2066)	1717-2643 (1819-2643)	1862
Length of antenna, μm	880-1484 (1071-1425)	1060-1747 (1225-1747)	827-845 (836)
Length of antenna / length of body	0.57-0.81 (0.64-0.77)	0.56-0.74 (0.56-0.74)	0.44-0.45 (0.45)
Hind femur length, μm	365-538 (415-533)	374-385 (379)	374-385 (379)
Hind femur length / head width across the compound eyes	0.96-1.28 (1.07-1.25)	1.24-1.41 (1.27-1.38)	0.90-0.93 (0.91)
Head width across the compound eyes, μm	357-448 (391-445)	359-412 (385-407)	415
Number of marginal tubercles	6-9 (6.0-7.8)	6-8 (6.0-8.0)	12
6th antennal segment, length of base, μm	89-128 (101-121)	91-147 (115-147)	91-96 (94)
6th antennal segment, length of processus terminalis, μm	223-362 (273-309)	281-417 (319-417)	210-212 (211)
6th antennal segment, length of processus terminalis / length of base	2.30-3.04 (2.37-2.74)	2.29-3.08 (2.29-3.02)	2.18-2.33 (2.26)
Length of ultimate rostral segment, μm	112-137 (120-133)	114-137 (122-137)	124
Length of ultimate rostral segment / head width across the compound eyes	0.28-0.38 (0.28-0.32)	0.31-0.34 (0.32-0.33)	0.30
Length of ultimate rostral segment / length of 2nd segment of hind tarsus	1.00-1.35 (1.00-1.25)	1.02-1.32 (1.02-1.19)	1.17-1.23 (1.20)
Length of ultimate rostral segment / length of base of 6th antennal segment	0.97-1.43 (1.00-1.24)	0.86-1.28 (0.86-1.08)	1.29-1.36 (1.33)
Length of 2nd segment of hind tarsus, μm	91-120 (101-120)	94-124 (104-124)	101-106 (104)
Length of 2nd segment of hind tarsus / head width across the compound eyes	0.24-0.28 (0.24-0.27)	0.26-0.29 (0.27-0.28)	0.24-0.26 (0.25)
Length of 2nd segment of hind tarsus / length of base of 6th antennal segment	0.89-1.09 (0.91-1.00)	0.81-1.06 (0.83-0.95)	1.05-1.17 (1.11)
Siphunculus, length, μm	142-238 (164-238)	149-250 (161-250)	152-162 (157)
Siphunculus, length / width at half length	3.29-5.09 (3.80-4.57)	3.95-5.50 (3.95-5.50)	3.75-4.00 (3.88)
Length of cauda, μm	149-202 (164-190)	121-169 (136-169)	164
Length of siphunculus / length of cauda	0.90-1.29 (0.98-1.27)	1.12-1.60 (1.19-1.60)	0.92-0.98 (0.95)

diameter of 3rd antennal segment. Light brown, sclerotized at base marginal tubercles always present on prothorax and abdominal segments I and VII; marginal tubercles present also on segment II in 18% of specimens (2 tubercles in 11% of specimens), one tubercle present on segment III in 15% of specimens and tubercles present on segment IV in 11% of specimens (2 tubercles in 4% of specimens); marginal tubercles strongly protuberant, nipple-shaped or conical, on prothorax and abdominal segments I and VII large, on segments II-IV smaller, diameter of tubercles 0.7-1.7 times greater than height. Head without traces of epicranial coronal suture. Frontal tubercles not high, but clearly marked; median tubercle not reaching or rarely surpassing the level of antennal tubercles. Occipital and frontal hairs long, very finely pointed, longest occipital and frontal hairs 58-81 (70-76) and 68-83 (75-79) μm long, 2.80-4.15 (3.16-3.91) and 3.00-4.71 (3.36-4.16) times as long as articular diameter of 3rd antennal segment, respectively. Antennae 6-segmented, without secondary rhinaria. Hairs on antennae finely or very finely pointed; longest hair on 3rd segment 53-78 (56-68) μm long, 2.44-3.86 (2.44-3.28) times as long as articular diameter of the segment; basal part of 6th antennal segment with 2-3 (2.5-3.0) hairs, longest hair 1.38-3.17 (1.60-2.24) times as long as articular diameter of basal part of the segment. Rostrum reaching metathorax or abdominal segment II. Ultimate rostral segment elongate wedge-shaped with straight or slightly concave sides, 1.88-2.79 (1.88-2.49) times as long as its basal width, with 2 very long accessory hairs. Hind femora and hind tibiae 0.24-0.31 (0.24-0.29) and 0.45-0.57 (0.46-0.54) times as long as body, respectively. Hairs on legs long, very finely pointed; ventral hair on hind trochanter 1.27-1.89 (1.56-1.72) times as long as basal diameter of hind femur; longest dorsal, ventral and dorso-apical hairs on hind femur 71-99 (81-99), 66-96 (79-90) and 40-63 (45-56) μm long, respectively; longest dorsal hair on hind tibia 81-101 (86-93) μm long, 1.79-2.53 (1.79-2.39) times as long as mid-diameter of the latter. Chaetotaxy of first tarsal segments 3, 3, 2 and only sometimes one middle tarsus with 2 hairs. 2nd segment of hind tarsus 4.20-5.38 (4.20-4.90) times as long as its maximum width and 0.89-1.09 (0.91-1.00) times as long as base of 6th antennal segment, with 0-2 (1.0-1.5) ventral hairs and 0-1 (0-1.0) dorsal hair in addition to the three apical pairs. Siphunculi faintly narrowed to apex, sometimes somewhat expanded before base, imbricate, with flanges, 2.18-4.00 (2.78-3.36) times as long as their basal width, 0.09-0.13 (0.11-0.12) times as long as body and 0.50-0.71 (0.55-0.66) times as long as 3rd antennal segment. Subgenital plate oval, with 2-9 (2.5-7.0) hairs on anterior half and

8-18 (10.3-13.0) finely pointed hairs along hind margin. Hairs on anal plate very finely pointed. Cauda finger-shaped with slight constriction, 0.99-1.78 (1.23-1.36) times as long as its basal width, with 9-20 (11.8-20.0) long, very finely pointed hairs.

Measurements. Body 1548 \times 924; antennae 880: III 200 \times 25, IV 121, V 137, VI 89+223; hind trochanter+femur 417; hind tibia 690; siphunculus 141 \times 43; cauda 157 \times 149 (at base) \times 109 (before base).

Alate viviparous female. Elongate-eggshaped, body 2.1-2.3 (2.1-2.3) times as long as wide. Head, thorax, antennae and legs dark; nymphs with two longitudinal rows of white wax maculae on tergites. Cleared specimens with dark brown 1st antennal segment, head, thorax, coxae, hind femora (except for their bases), apices of tibiae, intersegmental plates, siphunculi, anal plate and cauda, with brown antenna (except for 1st segment), tarsi, subgenital plate, bands, sclerites and peritremes on abdomen. Abdominal dorsum with bands on all tergites, large marginal sclerites on segments II-VI and small marginal sclerites on segments I and VII; bands on tergites I-VI frequently divided into small separate sclerites and sometimes disappearing. Surface of head and dorsal side of thorax wrinkled, of abdominal tergites I-VI reticulate (contour of cells formed by large, sparse, strongly smoothed-out or pointed spinules). Longest dorsal, marginal and ventral hairs on abdominal tergite III 53-81 (53-81), 51-76 (63-76) and 51-78 (59-71) μm long, 2.33-4.00 (2.33-4.00), 2.50-5.00 (3.00-3.63) and 2.50-4.00 (3.00-3.50) times as long as articular diameter of 3rd antennal segment, respectively; marginal hairs 1, 2-4, 2-4, 2-4, 0-2, 2-3 and 1 on each side of abdominal segments I-VII; tergite VI with 2-4 (2.0-2.7) hairs between siphunculi; tergite VIII with 4-9 (4.0-9.0) hairs, 63-101 (71-101) μm long, 3.25-5.00 (3.33-4.44) times as long as articular diameter of 3rd antennal segment. Median frontal tubercle surpassing or rarely not reaching the level of antennal tubercles. Longest occipital and frontal hairs 46-73 (59-73) and 51-73 (60-73) μm long, 2.50-4.31 (2.78-3.63) and 2.25-4.17 (2.89-3.50) times as long as articular diameter of 3rd antennal segment, respectively. Longest hair on 3rd segment 48-66 (53-66) μm long, 2.38-3.54 (2.63-3.09) times as long as articular diameter of the segment; longest hair on 6th antennal segment 1.60-2.36 (1.71-2.18) times as long as articular diameter of basal part of the segment. Secondary rhinaria 10-20 (10.0-20.0) on 3rd antennal segment, 0-2 (0-2.0) on 4th segment, 0 on 5th segment, rounded or oval, very weakly projecting, with external diameters 3.4-16.0 times their heights. Hind femora 0.46-0.62 (0.46-0.56) times as long as body. Ventral hair on hind trochanter 1.18-

1.64 (1.23-1.43) times as long as basal diameter of hind femur; longest dorsal, ventral and dorso-apical hairs on hind femur 56-86 (68-86), 63-91 (71-91) and 35-56 (38-51) μm long, respectively; longest dorsal hair on hind tibia 68-86 (74-83) μm long, 1.78-2.73 (1.78-2.46) times as long as mid-diameter of the latter. 2nd segment of hind tarsus with 0-2 (0-2.0) dorsal hairs in addition to three apical pairs. Siphunculi 2.87-4.71 (2.88-4.71) times as long as their basal width and 0.07-0.17 (0.07-0.11) times as long as body. Subgenital plate with 3-11 (3.5-11.0) hairs on anterior half.

Measurements. Body 1818 \times 836; antennae 1301: III 295 \times 25, IV 190, V 197, VI 124+362; hind trochanter+femur 129; hind tibia 1082; siphunculus 167 \times 40; cauda 142 \times 142 (at base) \times 116 (before base).

Biology. The aphids live on tips of pedicles and on stems of *Melampyrum nemorosum* L. and *M. pratense* L. Life cycle unknown, but apparently monoecious holocyclic.

Distribution. Ukraine (Cherkasy Prov., Kanev Distr., Nature Reserve "Kanevskiy"), Russia (Mari El Republic: Zvenigovo Distr.; Nizhny Novgorod Prov.: Bor Distr., State Nature Reserve "Kerzhenskiy").

Aphis fabae Scopoli, 1763. *Nizhny Novgorod Prov.*: apt., Semenov Distr., Tarasikha RWS, 17.V.2002, *Euonymus verrucosa* Scop., on young shoots (O.G. Nikanorova); apt. and al., Bor Distr., SNR "Kerzhenskiy", 15.VII.2004, *Sedum telephium* L. (N.V. Smirnova); apt. and al., Bor Distr., SNR "Kerzhenskiy", 6.VII.2004, *Cirsium arvense* (L.) Scop. (N.V. Smirnova); *Chuvash Republic*: apt., Cheboksary Distr., near lake Astrakhanka, 12.VI.2002, *Rumex confertus* Willd., on inflorescences (N.V. Smirnova).

Aphis farinosa J.F. Gmelin, 1790. *Nizhny Novgorod Prov.*: apt., Semenov Distr., Tarasikha RWS, 17.V.2003, *Salix* sp., on young shoots (O.G. Nikanorova); apt., Semenov Distr., Ozero RWS, 4.VII.2003, *Salix* sp., on shoot (O.G. Nikanorova); apt., ♀ ♀ and ♂, same data, 10.VII.2003 (O.G. Nikanorova).

Aphis frangulae frangulae Kaltenbach, 1845. *Nizhny Novgorod Prov.*: apt. and al., Bor Distr., SNR "Kerzhenskiy", 16.VII.2004, *Epilobium angustifolium* L. (N.V. Smirnova).

Aphis frangulae beccabungae Koch, 1855. *Nizhny Novgorod Prov.*: apt. and al., Bor Distr., SNR "Kerzhenskiy", 27.VIII.2004, Lamiaceae (N.V. Smirnova).

Aphis gossypii Glover, 1877. *Nizhny Novgorod Prov.*: apt. and al., Bor Distr., SNR "Kerzhenskiy", 14.VII.2004, *Hieracium umbellatum* L. (N.V. Smirnova); *Mari El Republic*: apt., Zvenigovo Distr., vill. Ivan-Belyak, 11.VII.2002, *Gentiana pneumonanthe* L. (N.V. Smirnova).

Aphis hieracii Schrank, 1801. *Nizhny Novgorod Prov.*: apt., Bor Distr., SNR "Kerzhenskiy", 26.VIII.2004, *Hieracium umbellatum* L. (N.V. Smirnova); *Mari El Republic*: apt., Zvenigovo Distr., 5 km from vill. Kokshamary on river Bol'shaya Kokshaga, 6.VI.2002, *Hieracium ?umbellatum* L. (N.V. Smirnova); apt. and al., same data, 22.VI.2002 (N.V. Smirnova); apt., Medvedevo Distr., SNR "Bol'shaya Kokshaga", cordon Kr. Gorka, 21.VII.2003, *Hieracium umbellatum* L., on stem (N.V. Smirnova); *Chuvash Republic*: apt., Cheboksary Distr., vill. Sosnovka, 12.VI.2002, *Pilosella officinarum* F. Schultz et Sch. Bip. (N.V. Smirnova).

Aphis mirifica (Börner, 1950). *Mari El Republic*: apt., Kilemary Distr., SNR "Bol'shaya Kokshaga", 24.VII.2003, *Epilobium angustifolium* L., on stem near root (N.V. Smirnova).

Aphis pomi De Geer, 1773. *Nizhny Novgorod Prov.*: apt., Semenov Distr., Tarasikha RWS, 17.V.2002, *Sorbus* sp., in rolled leaves at apex of stem (O.G. Nikanorova).

Aphis praeterita Walker, 1849. *Chuvash Republic*: apt. and al., Cheboksary Distr., vill. Oktyabr'skiy, 12.VIII.2002, *Epilobium angustifolium* L. (N.V. Smirnova).

***Aphis rumicivora** Heie, 1986

Material. **Russia**, *Nizhny Novgorod Prov.*: apt. and 1 ♀, Bor Distr., SNR "Kerzhenskiy", 29.VIII.2004, *Rumex acetosella* L., on roots (N.V. Smirnova).

To present day, apterous and alate viviparous female were known only. A find of oviparous female in Nizhny Novgorod Prov. at the end of August proves that this species has a monoecious life cycle and allows description of the unknown morph (see also the Table).

Description. *Oviparous female.* Elliptic, body 1.6 times as long as wide. Dark. Cleared specimen with dark brown frons, 1st antennal segment, 3rd and 4th rostral segments, femora (except for their bases), apices of tibiae, tarsi, intersegmental plates, subgenital and anal plates, siphunculi and cauda, with brown head (except of frons), 2nd antennal segment, apical half of penultimate antennal segment, ultimate antennal segment, coxae and sclerites at their bases, bases of femora, tibiae (except for their apices), sclerites on ventral side of pro- and mesothorax, marginal maculae and peritremes on all abdominal segments, with light brown band on pronotum and sclerites on mesonotum. Dorsal surface of thorax with weakly marked band on pronotum and with sclerites on mesothorax, abdominal dorsum membranous. Surface of head, thorax and abdominal tergites I-VI slightly reticulate (contour of cells on head and prothorax formed by small, more or less smoothed-out spinules, on abdominal tergites I-VI formed by thin, irregular line), of abdominal tergite VII with rows of smoothed-out

spinules partially fused on tergite VIII to form scales; of ventral side of prothorax wrinkled, of ventral side of meso- and metanotum and abdomen with long rows of small spinules sometimes forming strongly stretched cells. Hairs on dorsal surface of thorax and abdomen short (longest dorsal and marginal hairs on abdominal tergite III 8 and 13 μm long, 0.38-0.40 (0.39) and 0.63-0.67 (0.65) times as long as articular diameter of 3rd antennal segment, respectively), pointed or slightly blunt, hairs on ventral surface of thorax and abdomen short or long (longest ventral hair on abdominal tergite III 28 μm , 1.38-1.47 (1.42) times as long as articular diameter of 3rd antennal segment), pointed or rarely finely pointed; marginal hairs 0, 1, 1, 0-1, 1, 1 and 1 on each side of abdominal segments I-VII; abdominal tergite III with 2 dorsal hairs; tergite VI with 2 hairs between siphunculi; tergite VIII with 32 hairs, longest hair on abdominal tergite VIII 13 μm long, 0.63-0.67 (0.65) times as long as articular diameter of 3rd antennal segment. Light brown or brown marginal tubercles present on prothorax, abdominal segments I-IV and VII; marginal tubercles on prothorax large, strongly protuberant, nipple-shaped, with diameter 1.7-2.0 times that of complex eye and 1.2 times the height of tubercles; marginal tubercles on segments I and VII large, protuberant, nipple-shaped, on segments II-VI medium-sized, protuberant or strongly protuberant, semicircular or nipple-shaped; diameter of tubercles on segments I-IV and VII 1.0-1.5 times the height of tubercles. Head with traces of epicranial coronal suture. Frontal tubercles not high; median tubercle surpassing the level of antennal tubercles. Occipital and frontal hairs blunt or, rarely, pointed, short, longest occipital and frontal hairs 10 and 13 μm long, 0.50-0.53 (0.52) and 0.63-0.67 (0.65) times as long as articular diameter of 3rd antennal segment, respectively. Antennae on the one side 6-segmented and on the other side 5-segmented (with fused 3rd and 4th segments), without secondary rhinaria. Hairs on antennae blunt or, rarely, pointed; longest hair on 3rd segment 10 μm long, 0.50-0.53 (0.52) times as long as articular diameter of the segment; basal part of 6th antennal segment with 3 hairs, longest hair 0.73-0.83 (0.78) times as long as articular diameter of basal part of the segment. Rostrum reaching abdominal segment II. Ultimate rostral segment elongate wedge-shaped, 2.45 times as long as its basal width, with 2 long accessory hairs. Hind femora and hind tibiae 0.20-0.21 and 0.34 times as long as body, respectively. Hairs on legs blunt or pointed; longest dorsal, ventral and dorso-apical hairs on hind femur 13-15 (14), 25 and 10 μm long, respectively; longest dorsal hair on hind tibia 18-20 (19) μm long, 0.44-0.50 (0.47) times as long as mid-diameter of the latter; ventral hair on hind trochanter finely pointed, 0.94-1.05 (1.00) times as long as basal diameter of hind

femur. Chaetotaxy of first tarsal segments 3, 3, 2. 2nd segment of hind tarsus 4.44-4.67 (4.56) times as long as its maximum width and 1.05-1.17 (1.11) times as long as base of 6th antennal segment, with 1 ventral hair in addition to three apical pairs, dorsal hairs absent. Siphunculi faintly narrowed to apex, distinctly imbricate, with flanges, 3.37-3.53 (3.45) times as long as their basal width, 0.08-0.09 times as long as body and 0.55-0.83 (0.69) times as long as 3rd antennal segment. Subgenital plate oval, with 24 hairs on anterior half and 27 hairs along hind margin; all hairs finely pointed. Hairs on anal plate finely pointed. Cauda elongate-triangular, pointed, 1.18 times as long as its basal width, with 17 finely pointed hairs.

Measurements. Body 1862 \times 1160; antennae 844: III 195 \times 23, IV 104, V 121, VI 96+210; hind trochanter+femur 406; hind tibia 636; siphunculus 162 \times 40; cauda 164 \times 139 (at base) \times 104 (before base).

Aphis urticae J.F. Gmelin, 1790. *Mari El Republic*: apt., Zvenigovo Distr., vill. Urzhumka, 17.VIII.2002, *Urtica* sp. (N.V. Smirnova).

***Aphis (Bursaphis) epilobiaria** Theobald, 1927. *Chuvash Republic*: apt., Cheboksary Distr., vill. Sosnovka, 7.IX.2002, *Epilobium* sp., on rolled inflorescences (N.V. Smirnova).

Tribe Macrosiphini

Subtribe Anuraphidina

Brachycaudus (Acaudus) lychnidis (Linnaeus, 1758). *Nizhny Novgorod Prov.*: apt., Bor Distr., SNR "Kerzhenskiy", 31.V.2004, *Silene alba* (Miller) E.H.L. Krause, on stem (N.V. Smirnova).

Brachycaudus (Prunaphis) cardui (Linnaeus, 1758). *Nizhny Novgorod Prov.*: apt. and al., Bor Distr., SNR "Kerzhenskiy", 19.VII.2004, *Carduus* sp. (N.V. Smirnova).

Subtribe Liosomaphidina

***Cavariella archangelicae** (Scopoli, 1763). *Chuvash Republic*: apt. and al., Cheboksary Distr., vill. Oktyabr'skiy, 12.VI.2002, Apiaceae, on leaves and stems (N.V. Smirnova).

Cavariella intermedia (Hille Ris Lambers, 1969). *Nizhny Novgorod Prov.*: apt., Semenov Distr., Ozero RWS, 18.VII.2003, *Salix* sp., on stems and leaves (O.G. Nikanorova).

***Cavariella theobaldi** (Gillette & Bragg, 1918). *Nizhny Novgorod Prov.*: apt., Semenov Distr., Keza RWS, flood-lands of river Linda, 10.VII.2002, *Salix* sp., on leaves and young shoots (O.G. Nikanorova); apt., Semenov Distr., Ozero RWS, 18.VII.2003, *Salix* sp., on stems and leaves (O.G. Nikanorova).

Subtribe Myzina

Aulacorthum speyeri Börner, 1939. *Mari El Republic*: apt., Zvenigovo Distr., vill. Ivan-Belyak, 22.VI.2002, *Polygonatum odoratum* (Miller) Druce, on lower side of leaves (N.V. Smirnova).

Myzus cerasi (Fabricius, 1775). *Chuvash Republic*: al., Cheboksary Distr., vill. Sosnovka, 5.VII.2002, *Galium* sp. (N.V. Smirnova).

Tubaphis ranunculina (Walker, 1852). *Nizhny Novgorod Prov.*: apt., Bor Distr., SNR "Kerzhenskiy", 26.VIII.2004, unknown plant (N.V. Smirnova).

Subtribe Macrosiphina

Acyrtosiphon knechteli (Börner, 1950). *Nizhny Novgorod Prov.*: apt. and al., Bor Distr., SNR "Kerzhenskiy", 3.VI.2004, *Vaccinium uliginosum* L., on stem (N.V. Smirnova).

Macrosiphoniella tanacetaria (Kaltenbach, 1843). *Mari El Republic*: apt., Medvedevo Distr., SNR "Bol'shaya Kokshaga", cordon Shimaev, 15.VI.2003, *Tanacetum vulgare* L. (N.V. Smirnova).

***Macrosiphoniella tapuskae** (Hottes & Frison, 1931). *Chuvash Republic*: apt., Cheboksary Distr., vill. Oktyabr'skiy, 3.VII.2002, *Achillea millefolium* L. (N.V. Smirnova).

Macrosiphum cholodkovskiyi (Mordvilko, 1909). *Nizhny Novgorod Prov.*: apt., Bor Distr., SNR "Kerzhenskiy", 29.VIII.2004, *Filipendula ulmaria* (L.) Maxim. (N.V. Smirnova).

Macrosiphum euphorbiae (Thomas, 1878). *Chuvash Republic*: apt., Cheboksary Distr., vill. Sosnovka, 5.VII.2002, *Filipendula ulmaria* (L.) Maxim. (N.V. Smirnova).

Macrosiphum rosae (Linnaeus, 1758). *Nizhny Novgorod Prov.*: fun., Semenovo Distr., Tarasikha RWS, 17.V.2003, *Rosa* sp. (O.G. Nikanorova).

Metopeurum fuscoviride Stroyan, 1950. *Nizhny Novgorod Prov.*: apt., Bor Distr., SNR "Kerzhenskiy", 16.VII.2004, *Tanacetum vulgare* L. (N.V. Smirnova); *Mari El Republic*: apt. and al., Zvenigovo Distr., vill. Urzhumka, 28.VI.2002, *Tanacetum vulgare* L. (N.V. Smirnova); apt., Kilemary Distr., SNR "Bol'shaya Kokshaga", vill. Shaptunga, 18.VII.2003, *Tanacetum vulgare* L., on inflorescences (N.V. Smirnova); ♀♀, same locality and plant, 28.VIII.2003 (N.V. Smirnova).

Microlophium carnosum (Buckton, 1876). *Chuvash Republic*: apt., Cheboksary Distr., vill. Sosnovka, 5.VII.2002, *Urtica dioica* L., on stem (N.V. Smirnova).

Sitobion avenae (Fabricius, 1775). *Nizhny Novgorod Prov.*: al., Bor Distr., SNR "Kerzhenskiy", 3.VI.2004, *Peucedanum palustre* (L.) Hoff. (accidentally), on stem (N.V. Smirnova); *Mari El Republic*: al., Zvenigovo Distr., 5 km from vill. Kokshamary on river Bol'shaya Kokshaga, 11.VII.2002, Poaceae (N.V. Smirnova); al., Medvedevo Distr., SNR "Bol'shaya Kokshaga", near lake Kosheer, 23.VII.2003, *Molinia*

caerulea (L.) Moench., on upper side of leaves (N.V. Smirnova).

***Uroleucon pilosellae** (Börner, 1933). *Nizhny Novgorod Prov.*: fun., Bor Distr., SNR "Kerzhenskiy", 30.V.2004, *Hieracium umbellatum* L., on stem (N.V. Smirnova).

***Uroleucon pseudobscurum** (Hille Ris Lambers, 1967). *Nizhny Novgorod Prov.*: apt., Bor Distr., SNR "Kerzhenskiy", 26.VIII.2004, *Hieracium umbellatum* L. (N.V. Smirnova); *Mari El Republic*: apt. and al., Zvenigovo Distr., 5 km from vill. Kokshamary on river Bol'shaya Kokshaga, 22.VI.2002, *Hieracium umbellatum* L. (N.V. Smirnova).

Uroleucon (Uromelan) jaceae (Linnaeus, 1758). *Nizhny Novgorod Prov.*: apt., Bor Distr., SNR "Kerzhenskiy", 20.VIII.2004, *Centaurea jacea* L., on stem (N.V. Smirnova).

Uroleucon (Uromelan) solidaginis (Fabricius, 1781). *Nizhny Novgorod Prov.*: fun., Bor Distr., SNR "Kerzhenskiy", *Solidago virgaurea* L., 29.V.2004, on stem (N.V. Smirnova); apt. and al., same locality and plant, 14-15.VII.2004 (N.V. Smirnova); *Mari El Republic*: apt., Zvenigovo Distr., 5 km from vill. Kokshamary on river Bol'shaya Kokshaga, 6.VI.2002, *Solidago virgaurea* L. (N.V. Smirnova); apt. and al., same locality and plant, 22.VI.2002 (N.V. Smirnova); apt. and al., Medvedevo Distr., SNR "Bol'shaya Kokshaga", cordon Shimaev, 12.VI.2003, *Succisa pratensis* Moench (N.V. Smirnova); *Chuvash Republic*: apt., Cheboksary Distr., vill. Oktyabr'skiy, 8.VI.2002, *Solidago virgaurea* L. (N.V. Smirnova); apt. and al., Cheboksary Distr., vill. Sosnovka, 5.VII.2002, *Solidago virgaurea* L. (N.V. Smirnova).

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